

THE MONTGOMERY COUNTY ENVIRONMENTAL POLICY

DRAFT ISSUES AND ACTIONS REPORT

BACKGROUND

On July 29, 2003 the Montgomery County Council passed a resolution to adopt the Montgomery County Environmental Policy. This resolution was a coordinated effort between the County Executive and the County Council who collaborated on the development of an overarching environmental policy for all County agencies and departments to follow. This is an internal policy covering environmental impacts of the operations of County departments and agencies. The impetus for this policy was a desire for Montgomery County to be a recognized leader in the area of environmental stewardship by other public and private organizations that operate both within Montgomery County and in the region. Development and adoption of a comprehensive environmental policy would foster Montgomery County's ability to plan, prioritize, and implement internal environmental initiatives in a coordinated fashion and allow the County to lead by example.

An important aspect of the Montgomery County Environmental Policy is that it is directed at improving and coordinating the environmental stewardship of County departments and agencies that have budget review and approval by the Montgomery County Council. It is the intent of the Environmental Policy to initiate activities that improve the environmental sustainability of our daily activities by raising the level of consciousness of all County agencies, departments, and employees that their actions have environmental consequences. Accordingly, this policy establishes a framework for all Montgomery County agencies and departments to achieve improvement in the implementation of best practices to address issues of public health, environmental resource management and environmental protection. These actions will promote a comprehensive and sustained effort by the County to make measurable progress as environmental stewards.

The policy established an interagency task force, the Environmental Policy Implementation Task Force (EPITF) that is the coordination body for the actions identified in the Environmental Policy. The EPITF is composed of senior managers from:

- The Office of the Chief Administrative Officer
Paul Folkers, Assistant Chief Administrative Officer
- Montgomery County Public Schools
Richard Hawes, Director, Department of Facilities Management
- Montgomery College
David Capp, Chief Facilities Officer
- The Montgomery County Planning Board (M-NCPPC)
Jeffrey Zyontz, Chief, County-Wide Planning Division

- The Washington Suburban Sanitary Commission (WSSC)
Richard Shagogue, Chief Engineering & Construction Team
- The Office of the Staff Director of the County Council
Keith Levchenko, Legislative Analyst

EPITF's development of this Draft Issues and Actions Report is one of the first steps required by the Environmental Policy. The Environmental Policy directs the EPITF to develop and transmit a draft Issues and Actions Report to the County Council within ninety days of adoption of the Environmental Policy Resolution. Accordingly this report is being transmitted to the County Council. The Policy also directs that within thirty days of the transmittal of the draft Issues and Actions Report, the EPITF shall hold a public forum on the report and then issue a final report to the County Council no later than thirty days after the public forum.

This Issues and Actions Report identifies the priority environmental issues in the County and outlines several potential best management practices that agencies and departments can take to improve environmental quality. It is intended that after this Issues and Actions Plan is approved by the Council, each agency and department in the County government will develop an Environmental Action Plan addressing selected environmental issues identified in the report. All County agencies and departments are expected to define and implement an Environmental Action Plan. The elements of these Action Plans should come from this report and may contain both short-term and long-term implementation goals. The Report's "Issues" and the associated "Best Management Practices" are not prioritized at this time. Each County department and agency needs to consider its specific circumstances and determine which issues and measures make the most sense to implement and on what schedule. However, as part of its work plan, the EPITF will strive to coordinate efforts between agencies on certain environmental issues.

It is the responsibility of each agency and department to identify the environmental issues that it wishes to address and propose appropriate environmental actions it will implement to address these issues. However, the Task Force may identify priority action areas that can be effectively implemented by multiple agencies and departments to achieve measurable environmental results. It is the agency's and department's decision as to whether they participate in the identified priorities or adopt other issues identified in the Issues and Actions Report for development of their Environmental Action Plan. Each agency and department, through its annual budget submissions to the County Executive and County Council, is required to exhibit and report progress in the development and implementation of its Environmental Action Plan.

It should be noted that the first three "Issues" identified in this report (Environmentally Preferred Purchasing, Pollution Prevention, and Green Building Practices) reference general environmental practices that contain many elements of the other more specific environmental "Issues". This results in some redundancy of the identified "Best Management Practices", but it was felt that this overlap was unavoidable since the presentation of these practices under only one of the identified "Issues" would be incomplete. For example, some of the practices listed in Green Building Practices are

also contained under Energy. This overlap is due to the fact that energy management is an integral aspect of Green Building practices, but not all energy management practices are specific to Green Building practices. An outline of the identified “Issues” and “Best Management Practices” is included at the end of the report to allow easy reference and cross-reference of these topics.

This is the Draft Issues and Actions Report prepared by the Environmental Policy Implementation Task Force. It was prepared with the assistance of the Montgomery County Department of Environmental Protection and input from staff in County departments and agencies. After input by the public and acceptance of this document by the County Council it will be distributed to all County agencies and departments to use as a reference in development of their Environmental Action Plans. It is the Task Force’s intent that this report be a living document that will have environmental issues and best management practices added as they are identified by County agencies and departments and to update this document in a formal review process bi-annually.

ENVIRONMENTAL ISSUES AND ACTIONS

ISSUE: ENVIRONMENTALLY PREFERRABLE PURCHASING

The United States consumes approximately 25% of the world’s resources with only 5% of the world’s population. State and Federal governments have taken the lead in reducing wastes upfront by implementing Environmentally Preferable Purchasing (EPP) Programs. EPP incorporates a life cycle approach to estimating costs. The initial capital cost often amounts to only a small fraction of the total cost of running and maintaining equipment. Montgomery County recognizes the positive impact that it can make on health and the environment through its purchasing decisions.

[Environmentally preferable means products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. (Federal Executive Order 13101, Greening the Government through Waste Prevention, Recycling and Federal Acquisition, Section 201)]

GOAL: To integrate environmental considerations into every aspect of product and service acquisition, to the extent feasible, consistent with price, performance, availability and safety considerations. Consideration will be given to a diverse array of environmental attributes such as recycled content, recyclability, water efficiency, energy efficiency, chlorine free, reduced volatile organic compounds (VOC) content, use of alternative fuels, pollution prevention potential, reduced shipping requirements, reduced noise generation, reduced product packaging, and elimination of toxic chemical content.

BEST MANAGEMENT PRACTICES

- Establish environmental purchasing guidelines by incorporating environmentally preferable products into the purchasing guidelines.
- Conduct an audit of the materials used by offices to ensure applicable environmental purchasing guidelines are being utilized.
- Recycled Content in Paper – All imprinted letterhead paper, envelopes, copy paper and business cards should specify a minimum amount of post-consumer recycled content and paper that is processed chlorine free. As stipulated in County Code Chapter 11B, procurement of paper and paper products will represent “50% of the total dollar value of paper and paper products purchased by or for County government will be recycled paper of at least 80% post-consumer waste content.”
- Quiet Equipment - When purchasing or contracting for goods, services and fixed or mobile equipment, noise emission potential should receive equal consideration with all other factors. When appropriate, noise emission standards will be specified in RFP's and contracts; (e.g.; all "leaf blowers", as defined by the Noise Ordinance, purchased or contracted by the County must produce 70 dBA (A-weighted decibels) or less at fifty feet, as certified by the American National Standards Institute (ANSI).
- Integrated Pest Management - Any chemicals used to eliminate or deter insect pests and undesirable vegetation should be the most readily and completely biodegradable product available for the given application, and be applied in a manner that is least likely to come into contact with humans and any other animals for which treatment is not intended.
- Consideration should also be given to the use of:
 - ❑ Remanufactured laser printer toner cartridges and remanufactured or refillable inkjet cartridges.
 - ❑ Vegetable oil inks (soy-based).
 - ❑ Re-refined antifreeze, including on-site antifreeze recycling.
 - ❑ Re-refined lubricating and hydraulic oils.
 - ❑ Recycled plastic outdoor wood substitutes-including plastic lumber, benches, fencing, signs, and posts.
 - ❑ Recycled content construction, building and maintenance products, as detailed in the Leadership in Energy and Environment Design (LEED) Green Building Program.
 - ❑ Janitorial and cleaning or disinfecting products in conformance with the LEED Green Building Program.
 - ❑ Re-crushed cement concrete aggregate and asphalt.

- ❑ Cement and asphalt concrete containing tire rubber, glass cullet, recycled fiber, plastic, fly ash, or other alternative products.
- ❑ Re-treaded tires and products made from recycled tire rubber including rubberized asphalt, playground surfaces, and fatigue mats.
- ❑ Compost, mulch, and other organics including recycled biosolids products.
- ❑ Remanufactured low VOC paint.
- Develop, maintain and distribute a list of Target Environmental Procurement Products that includes products that **MUST** be purchased as recycled content products and may not be purchased in virgin form and those products which are available with recycled content or which meet the criteria for environmentally preferable products, which County employees can purchase whenever possible.
- Specify that all bid documents should include information on the County's programs to buy recycled content or which meet criteria in the Environmental Purchasing Guidelines.

ISSUE: POLLUTION PREVENTION

Pollution prevention, as defined under the federal Pollution Prevention Act of 1990, means "source reduction" as well as other practices that reduce, or eliminate the creation of pollutants through increased efficiency in the use of raw materials, energy, water or other resources. The term includes: equipment or technology modification, process or procedure modifications, reformulation or redesign, substitution of raw materials, and improvements in housekeeping, maintenance, training or inventory control. Protection of natural resources by conservation is also considered pollution prevention. Recycling, while beneficial, is not considered an effective pollution prevention option under federal law.

[Pollution Prevention as defined under the Pollution Prevention Act of 1990 (42 U.S.C 13102) is source reduction and other practice that reduce or eliminate the creation the creation of pollutants through; increased efficiency in the use of raw materials, energy, water or other resources; or protection of natural resources by conservation.]

GOAL: To reduce hazards to human health and the County's air, water and land associated with the release and/or use of hazardous substances in County operations through eco-efficiency.

BEST MANAGEMENT PRACTICES

Process Substitution:

- Use aqueous microbial solutions in place of hazardous solvents for degreasing vehicle parts.
- Implement integrated pest management in place of pesticide and herbicide use.
- Send and store information electronically when possible. This includes email, Web site, and electronic fax. Hold conference call meetings to reduce travel.
- Use duplex features on laser printers and copiers. Specify duplex on print jobs.

Product Substitution:

- Reduce the use of aerosol can by using refillable spray bottles.
- Stipulate that offices be cleaned with non-toxic, biodegradable cleaning products.
- Purchase hybrid electric cars in place of gasoline powered cars (see Energy).

Housekeeping:

- Cover floor drains to prevent spills from entering waterways.
- Train staff on spill control and contingency plans.
- Label and secure hazardous substances away from outdoor elements. Employ secondary containment for large quantities of hazardous materials.
- Properly cover materials outside to reduce stormwater contamination.

Protection of Natural Resources:

- Establish a baseline of existing groundwater resource through monitoring to prioritize recharge areas for protection. Participate in the State/Federal wellhead protection program, which protects public water supplies from contamination.
- Conserve water by installing rain barrels to collect storm water from roofs for use in gardens (see Water Supply).
- Implement the Forest Conservation, Watershed Protection and Groundwater Protection Strategies (see Natural Habitat).

Other:

- Establish a website clearinghouse for all government agencies and departments to access to promote exchange of surplus materials to uses at other locations for government use.

ISSUE: GREEN BUILDING PRACTICES

Nationally, buildings have a major impact on the environment. The construction practices of the past two decades have been at a high cost to the environment. Buildings consume 36% of all primary energy, 66% of all electricity, use 17% of all fresh water consumed, and 55% of the wood cut for non-fuel use is used in buildings. Nationally, the waste from building construction and demolition amounts to a third of all non-industrial waste.

That recognition is changing the way the building industry and building owners approach the design, construction, and operation of structures. The synonymous term Green Building means designing, constructing and operating buildings that give a high level of environmental, economic and engineering performance. Areas of importance include occupant health, energy and transportation efficiency, resource and material conservation (air, water, land, fuel), as well as reuse and recycling during building construction, operation and demolition. The concept applies to all buildings, including residential, commercial and industrial.

Montgomery County, Maryland is aware of the importance of conserving finite resources and ensuring that development practices are sustainable. The County operates from 270 facilities, about 90% of which are County-owned. The County recognizes that adopting a Green Buildings Program can positively impact energy usage, water quality, water conservation, and indoor air quality. The State of Maryland and the Federal government have developed Green Building Programs that provide useful guidelines.

[Green building practices means the incorporation of environmental, health and waste prevention criteria in building development. This includes; conserving and reusing water, treating storm water on-site, maximizing the use of local materials, purchasing recycled materials, optimizing energy performance by installing energy efficient equipment and systems; optimizing climatic control through site orientation and design, integrating natural day-lighting and ventilation, and the use of energy from wind, solar photovoltaic, solar thermal, biomass, landfill gas and combustion of municipal solid waste.]

GOAL: The County is committed to minimizing the impact of its facilities and operations on the environment, including protecting its employees and occupants from indoor air quality problems that result from building practices. Accordingly, it is the goal for government buildings to seek LEED certification for both existing and future buildings.

BEST MANAGEMENT PRACTICES

- Establish a Green Buildings Program following the Leadership in Energy and Environment Design (LEED) model and incorporate these changes into new

buildings and renovation projects. Use energy efficient and environmentally responsible approaches in the design, site-planning and preparation, materials acquisition, construction, operations maintenance and deconstruction of all new facilities and to the extent possible, existing County-owned and leased facilities. Such a program should include the following concepts:

- Land Use Context (Site Selection) - Siting new developments near public transportation and existing infrastructure, and away from sensitive habitats and floodplains.
- Land Impacts (Site Planning) - Preserving and reusing topsoil; preventing erosion and flooding; protecting water (quality) and conserving water (quantity), e.g. by minimizing impervious surfaces; by preserving trees on site; and by utilizing indigenous plants.
- Energy Use - Using solar, geothermal or other renewable sources of energy; using energy efficient, equipment, and design strategies; incorporating day lighting into design.
- Water Use - Using water-saving fixtures; using innovative strategies to conserve water, reduce effluent and run-off, and recharge the water table; on-site storm water treatment; selection of building sites and development of landscaping to preserve natural vegetation and maintain watershed integrity.
- Materials/Solid Waste - Reducing material use; reusing and recycling construction and demolition debris; using materials with recycled content and with lower-impact manufacturing methods and by-products; purchasing sustainable grown or harvested materials.
- Ventilation - Ensuring ventilation system design in all new County buildings meet the quality of ventilated air adequate to protect employees.
- Noise Control - Ensuring “the best reasonably available noise control technology and strategies” is employed.

ISSUE: ENERGY

Montgomery County recognizes that the emissions of pollutants resulting from the consumption of fossil fuels by such uses as power plants, vehicles, buildings, and industrial processes contribute to global climate change, and are detrimental to human health and the environment. It is in the interest of the County to undertake actions that will insure a secure and sustainable energy supply at reasonable cost.

Over the past decade the County has made significant advances in the area of building energy efficiency through implementation of Energy Design Guidelines

developed by the Department of Public Works and Transportation. Despite these efforts Montgomery County's electric bill for all agencies is about \$53 million per year. In fiscal year 2005 the County plans to purchase 5% of its electric supply from a clean renewable energy source fuel such as wind. This wind energy will displace some of the power generated by fossil fuel power plants and help clean our air. It has been demonstrated that cooperation among the various agencies of County government is an effective means of implementing energy efficiency programs and projects, such as the activities of the Interagency Committee on Energy and Utilities Management (ICEUM).

GOAL: It is the goal of Montgomery County to manage the development, storage and consumption of all energy resources in a manner that is efficient, protects public safety, minimizes adverse impacts on the natural environment, and helps to insure a future with a secure and sustainable energy supply.

BEST MANAGEMENT PRACTICES

- Change traffic lights to light-emitting diode (LED) fixtures. LED fixtures are 80-90% more efficient and last 10 times longer than ordinary lights, reducing energy and maintenance costs as well as greenhouse gases.
- Turn office lights off at the end of the day. It is estimated that this action alone will save \$400,000 per year on the County's electric bill.
- Construct all new facilities and perform major renovations of existing facilities in accordance with the Energy Design Guidelines and whenever possible LEED guidelines (see Green Building).
- Computer monitor power usage can be reduced by centrally enabling "Power Management" software on all computer monitors using free software and services available from EPA. This software automatically puts monitors to rest organization-wide when not in use, and allows them to "wake" within seconds with the touch of the mouse or keyboard. On the 6,000 computers the County owns, the savings from this measure amounts to approximately \$100,000 per year.
- Develop a cool roofs program to be used on government buildings.
- Plant trees around government buildings and streets to promote cooler buildings and lower air-conditioning loads.
- Purchase renewable energy resources wherever cost effective and practicable. Electricity purchased for use in County facilities will contain at least 5% power generated from zero emissions, renewable fuel sources. Investigate the feasibility of alternative fuel vehicles such as Bio-Diesel for buses and trucks.

- Use the full cut-off exterior light fixtures and light levels compliant with IESNA standards for parking lots and exterior building lights on buildings. Comply with recommended interior lighting levels recommended by IESNA for government buildings.
- Purchase energy efficient products (office equipment, interior lighting, appliances, HVAC equipment, etc.) that are Energy Star labeled. Review new technologies such as liquid crystal display (LCD) monitors for power use reduction.

ISSUE: AMBIENT AIR QUALITY

Good air quality is essential to the health and well being of County residents and employees as well as its plants, animals and waterways. Montgomery County is part of the Washington metropolitan area that is designated as “severe non-attainment” for ozone, a criteria pollutant designated by the Clean Air Act. During recent years there have been as many as 36 summer days where ozone levels reached “Code Red” levels and for the first time during the summer of 2002 “Code Purple” air quality. It is estimated that Maryland residents suffer from 170 deaths and 4,400 asthma attacks per year due to particulate air pollution. The region faces a severe challenge: meet federal air quality standards or lose federal funding for transportation.

The County recognizes its contribution to air quality problems in the region through the operation of a combined fleet compliment of 5,991 vehicles, including; cars, buses, trucks and heavy equipment. A recent report by Office of Legislative Oversight (OLO) “An Emissions Analysis of the County and Bi-County Agency Fleets” June 2003, estimates that the five County agencies collectively generate 973 tons of pollutants from the 76.2 million vehicles miles traveled by County owned vehicles.

GOAL: Promote clean air policies and undertake actions to meet the National Ambient Air Quality Standards.

BEST MANAGEMENT PRACTICES

- Reduce harmful fleet emissions by assessing operational needs. Strive to reduce fleet size, vehicle size, and vehicle miles traveled.
- Use alternative fuels and electric hybrid vehicles whenever cost effective, and when the use of such vehicles results in reduced energy use and emissions of pollutants and greenhouse gases.
- Purchase ultra low sulfur fuel.

- Continue ozone action day activities which concentrate on reducing ozone precursor emissions generated by the County during the ozone season.
- Encourage a policy for teleworking, which includes telework workstations, teleconferencing, incentives for carpooling and use of public transportation.
- Maintain or increase the 12 year replacement cycle for diesel powered vehicles such as Ride-On Buses, School buses and trucks. Implement a retrofit program to reduce diesel particulate emissions from buses.
- Maintain or reduce fleet size unless there is a documented justification for additional vehicles.
- Plant trees to replace dead or damaged ones removed each year with consideration given to climate, purpose and emissions. Strive for no net loss of trees.
- Reduce emissions from lawn and garden equipment through selective replacement, (e.g.; replace equipment with two cycle engines with equipment having four cycle engines).
- Support Energy Best Management Practices (see Energy).
- Implement the recommendations of the Office of Legislative Oversight Report #2003-4 and Department of Environmental Protection's Air Quality Protection Strategy.
- Expand work-life programs that minimize vehicular commuting and travel to offices. These programs include flexible work schedules, telecommuting, mass transit subsidies, car pool incentives, teleconferencing, etc.

ISSUE: INDOOR AIR QUALITY

Montgomery County recognizes that the average County employee today spends 90% of his or her time indoors, and indoor air pollution levels can be up to 96 times greater than outdoor pollution levels. EPA and the science advisory board have consistently ranked indoor air pollution among the top five environmental risks and one of the greatest health concerns in this country. Poor indoor air quality, or IAQ, can have a significant impact on worker's health and productivity and absenteeism.

Montgomery County, Maryland, due to geologic formations, has a high incidence of radon levels above the EPA recommended action level. Radon is an odorless, colorless, cancer-causing radioactive gas created during the natural decay of uranium in rocks and soils. Nationally, radon is estimated to cause about 22,000 deaths per year from lung cancer, second only to cigarette smoking.

GOAL: The County is committed to protecting its employees and occupants from indoor air problems.

BEST MANAGEMENT PRACTICES

- Ensure County buildings prevent soil gas entry by providing airtight foundations and installing passive radon mitigation systems. Test buildings that do not meet building design standards for radon protection and rehabilitate if necessary.
- Ensure ventilation system design in all new County buildings meets the quality of ventilated air adequate to protect employee health; air intakes are to be located to avoid cross contamination from building exhaust vents as stipulated in the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) code; copy rooms, parking garages, restrooms and cooking facilities designed with independent exhausts to prevent recirculation of degraded air establishing maintenance and operational practices.
- Maintain proper temperature and humidity control to avoid mold and mildew producing conditions. Ensure that EPA guidelines are followed for mold remediation work.
- When operating and maintaining buildings, ensure that all materials used are scrutinized for their emissions. Use only low-emitting materials in County buildings such as low-VOC adhesives, sealants, paints and carpeting. Composite wood and agri-fiber products must contain no added urea-formaldehyde resins.
- Use integrated pest management programs for pest control in County facilities. Ensure chemicals used to eliminate or deter insect pests and undesirable vegetation are readily and completely biodegradable and be applied in a manner that is least likely to come into contact with humans and any other animals for which treatment is not intended.
- Prioritize preventative maintenance of HVAC systems at County buildings.

ISSUE: WATER SUPPLY

Montgomery County's water supply comes from both surface water and groundwater resources. In the suburban and urban areas of the County most water supply is provided by the Washington Suburban Sanitary Commission (WSSC). The WSSC has two water supply treatment facilities, one on the Potomac River and one on the Patuxent River. The City of Rockville has its own water supply facilities and it also operates a water treatment facility on the Potomac River. In the rural areas of the County water

supply is generally from groundwater wells as is the water supply provided by the Town of Poolesville.

Water supply systems, whether they are based on surface water or groundwater sources, depend on adequate quality and quantity of the source water. Accordingly, practices that protect the surface water and groundwater resources for both quality and quantity are actions that protect the water supply.

GOAL: It is the goal of Montgomery County to take actions to protect the quality and quantity of both surface water and groundwater resources. These actions shall mitigate pollution of both surface waters and groundwater and promote conservation of water supplies for government buildings and public facilities.

BEST MANAGEMENT PRACTICES

- Promote “green building” practices that minimize surface runoff from developed sites (see Green Buildings).
- Promote water conservation practices at County facilities, both within structures and in the landscaping of buildings. These practices include the use of low flow water fixtures in buildings and planting of native species in building landscaping. Promote the collection and reuse of rainwater from rooftops to be used for irrigation.
- Develop landscape watering and golf course irrigation plans that minimize public water and groundwater usage. These practices include defining water needs of the lawns, gardens and other plantings and ensure that watering occurs when and where it is needed without excess evaporation or runoff. This is particularly applicable to County-owned golf courses.
- Minimize sources of pollution to surface and groundwater resources. These practices include waste reduction and pollution prevention practices as defined in other sections of this report. For lawns and golf courses this includes alternatives to use of chemical fertilizers and pesticides in turf maintenance practices.
- Promote natural landscaping (use of native species) at new or renovated landscape areas around government buildings.

ISSUE: WATERSHED QUALITY

The County has over 1,500 miles of streams which support a wide diversity of aquatic life, including 60 species of fish and about 420 types of aquatic insects. Many streams are populated with diverse and vibrant biological communities, but others have impaired habitat conditions which limit biological life. Recent monitoring results from

the *Countywide Stream Protection Strategy* rate 62% of the County's monitored stream miles to be in good to excellent condition, with 28% are rated as fair, and 10% in poor condition.

Degraded stream habitat and impaired biological life in County streams generally reflects the extent that forests and other natural watershed vegetation and topsoil has been graded and replaced with hard urban land surfaces such as roads, parking areas, buildings, and highly compacted lawn areas. These surfaces limit natural infiltration of rainfall into soils, significantly increase stormwater runoff, and reduce natural replenishment of groundwater, which helps sustain and cool stream flows during dry, summer periods. The dominant impact on streams is excessive erosion related to the extent of watershed development and adequacy of mitigating stormwater runoff controls.

Most streams have somewhat elevated nutrient concentrations, originating primarily from excessive fertilizer applications, both from suburban lawns and agricultural operations. Primary nutrient impacts are limited to the County's drinking water reservoirs, where these problems can complicate and increase the cost of treating drinking water, and in downstream tidal waters draining to the Chesapeake Bay. In some streams, illegal discharges, accidental pollution spills, and trash dumping impact water quality.

Public agencies can contribute to watershed quality by taking the lead in facility design, management, maintenance, and operational procedures for public facilities to reduce water resource impacts.

GOAL: Encourage and adequately budget public agencies to take the lead in implementing sustainable facility design, construction, operational practices, and regulatory measures that are more sensitive to the natural features of watersheds, more effective in the on-site management and reuse of stormwater and the replenishment of groundwater, and that restrict unnecessary applications of fertilizers and pesticides.

BEST MANAGEMENT PRACTICES

- Promote architectural and landscaping plans for new facilities and renovations to assure that site improvements more effectively integrate on-site habitat and stormwater management considerations directly into both building and site plans, rather than as independent add-ons in less effective locations. Employ greater use of rain gardens, green roof, and other low impact design measures to improve control of on site runoff.
- Establish operational procedures to track and restrict use of excessive fertilizer use and develop appropriate nutrient management plans.

- Restrict the use of pesticide applications on public properties and promote integrated pest management (IPM) practices.
- Maintain or expand existing levels of effort to retrofit stormwater controls to developed areas lacking such controls, restore streams degraded by inadequate stormwater management, and improve maintenance to publicly maintained stormwater management facilities.
- Identify opportunities for reducing the extent of paved areas that increase run-off at government facilities and take actions to promote groundwater infiltration (see Natural Habitat).

ISSUE: NATURAL HABITAT

The natural landscape, its diversity, and condition determine the variety of plant and animal life able to survive and contribute to the beauty and quality of life in Montgomery County. Disturbances to natural habitat related to population increases and land development greatly affect the diversity of supportable plant and animal species. Many breeding birds, for example, require specific types of forest habitat or tree canopy to successfully nest and maintain viable populations. Some frog, toad, and salamander species return to the same wetland area every year to breed. As these forested and wetland areas are lost, so are their supported species. Fish require relatively clean, cool stream conditions with a variety of riffles and pools and streamside trees and vegetation to provide shading and slow down and cleanse pollutants from runoff. The loss of tree cover to buildings, roads, and other paved surfaces takes away critical habitat for many bird and terrestrial species. Habitat and water quality damages to streams from inadequately managed stormwater runoff, pollutant discharges, and reductions in groundwater to sustain stream base flows gradually reduces biological diversity to the point where only the hardiest of species can survive.

GOAL: The County is committed to management actions which seek to increase tree cover and preserve or minimize impacts to natural habitats.

BEST MANAGEMENT PRACTICES

- Promote implementation of non-native invasive plant management on lands owned by the County.
- Develop an effective deer management program.
- Develop proactive, well designed landscaping plans to add trees and other features that add or improve habitat values at already developed or programmed public properties.

- Improve maintenance of street trees to protect their health and habitat value, thereby reducing their threats to the provision of reliable electrical service.
- Implement the Forest Conservation, Watershed Protection, and Groundwater Protection Strategies (see Pollution Prevention).
- Preserve rare and endangered species on County controlled properties.

ISSUE: SOLID WASTE MANAGEMENT AND RECYCLING

Responsible management of solid waste is a critical effort to mitigate the potential impacts of waste generation, handling, transportation and disposal on air quality and water resources. Accordingly, Montgomery County has made source reduction a priority by placing it at the top of the solid waste hierarchy. When waste is unavoidable, the County has adopted a policy to promote recycling of the waste as opposed to disposal. In the Executive Branch, an Executive Regulation was adopted that emphasizes the need to recycle waste from both businesses and government facilities. Recycling and reducing waste (and reusing materials) reduces the need to utilize and/or purchase new materials and products.

GOAL: It is the goal of Montgomery County to minimize waste generation and waste disposal through the implementation of the principles of *reduce, reuse, and recycle* and achieve the adopted County-wide recycling goals.

BEST MANAGEMENT PRACTICES

- Review purchasing practices to determine if there is a way to minimize the purchase of materials that result in a significant waste streams. Minimization of packaging, boxes, and pallets can reduce the waste stream significantly for many County operations.
- Review your waste streams to determine if there are opportunities to reuse any of the materials or locate a facility that can reuse the materials (see Pollution Prevention).
- Enhance and expand recycling programs in government buildings. Office paper recycling often has a significant impact on reducing waste disposal in government operations.

SUMMARY LIST OF ISSUES AND BEST MANAGEMENT PRACTICES

Environmentally Preferred Purchasing

- Establish purchasing guidelines
- Audit materials used in office
- Recycle content in paper
- Quiet Equipment
- Integrated Pest Management
- Develop list of products that used that can be purchased as recycle content products
- Bid documents to contain Environmental Purchasing Guidelines

Miscellaneous Opportunities:

- Remanufactured printer toner cartridges & refillable inkjet cartridges
- Vegetable oil inks
- Re-refined or recycled antifreeze
- Recycled plastic outdoor wood substitutes
- Recycled content construction products
- Janitorial and cleaning materials conforming to LEED Green Building Program
- Recycled concrete aggregate and asphalt
- Recycled material in concrete and asphalt
- Re-tread tires and recycled tire materials
- Recycled content compost & mulch
- Remanufactured low VOC paint

Pollution Prevention

Process Substitution:

- Use aqueous solutions to replace solvents for degreasing vehicle parts
- Integrated Pest management
- Electronic communication to replace paper based systems (email, www, etc.)
- Duplex features on printers replace single-sided process

Product Substitution:

- Replace aerosol cans with spray bottles
- Use non-toxic biodegradable cleaning products (Green Seal)
- Hybrid electric vehicles to replace gasoline powered vehicles

Housekeeping:

- Cover floor drains
- Spill control and contingency plans
- Cover and contain hazardous materials

Protection of Natural Resources:

- Groundwater protection strategies
- Use rain barrels
- Implement conservation and protection strategies
- Web based materials/waste exchange

Green Building Practices**Establish a Green Building Program (LEED) for Agencies:**

- Siting
- Site planning
- Energy use (renewable, conservation, lighting)
- Water conservation
- Recycled content construction materials
- Ventilation – indoor air quality practices
- Noise control
- Etc.

Energy

- LED (light emitting diode) traffic lights to replace standard traffic lights
- Policy on turning off office lights
- Use LEED energy design guidelines
- Central energy conservation software for computer monitors
- Cool Roofs for buildings
- Plant trees near buildings
- Purchase renewable energy resources
- Standards for outdoor and indoor lighting
- Purchase energy efficient products

Ambient (Outdoor) Air Quality

- Reduce number and use of vehicles
- Alternative fuels and hybrid electric vehicles
- Ultra low sulfur fuels
- Ozone Action Day practices

- Telework, teleconferencing, public and shared transportation
- Replace older diesel buses and trucks
- Limit fleet size
- Plant trees
- Selective replacement of grounds maintenance equipment
- Support Energy Best Management Practices
- Comply with adopted County programs, policies & plans
- Expand work-life programs (Telework, etc.)

Indoor Air Quality

- Inspect building construction for compliance with radon test. Rehabilitate as necessary
- Ventilation systems meet standards or rehabilitate
- Mold and mildew prevention or remediation
- Low-VOC emitting materials and maintenance materials
- Integrated pest management
- HVAC preventative maintenance

Water Supply

- Green Building practices to control surface run-off
- Water conservation practices
- Landscape watering and golf course irrigation plans
- Waste reduction and pollution prevention practices
- Native plant landscaping

Watershed Quality

- Architectural and site plans for on-site habitat and stormwater management
- Nutrient management plans
- Pesticide management and integrated pest management
- Stormwater management
- Reduced impervious surfaces

Natural Habitat

- Non-native invasive plant management
- Deer management
- Landscaping plans for habitat improvement
- Street trees
- Implement County strategies for protection of groundwater, forests and watershed
- Rare and endangered species protection

Solid Waste Management

- Minimize packaging when purchasing produces
- Reuse & recycle waste streams
- Recycling programs